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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------|-------------|----------------------|---------------------|------------------|
| 10/695,969 | 10/29/2003 | Hiroaki Ohkubo | NECF 20.702 | 7995 |
| 26304 | 7590 | 01/07/2005 | EXAMINER | |
| KATTEN MUCHIN ZAVIS ROSENMAN | | | FARAHANI, DANA | |
| 575 MADISON AVENUE | | | ART UNIT | |
| NEW YORK, NY 10022-2585 | | | PAPER NUMBER | |

2814
DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,969

Applicant(s)

OHKUBO ET AL.

Examiner

Dana Farahani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase 20 (50) times "or more" renders the above-mentioned claims indefinite because it is unclear as to what the upper limit of the relative resistivity of the substrate to the silicon layer is.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US Patent 6,239,465), newly cited.

Nakagawa discloses in figure 5, a silicon substrate 21 and an epitaxial layer 25; first and second circuit sections, shown at the both sides of isolation region 26 formed in layer 25; and the

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device isolation region is projecting from the substrate up to the surface of each of the first and second circuit sections.

Nakagawa does not expressly disclose the substrate has a lower resistivity than the epitaxial layer.

Nakagawa discloses at column 4, lines 54-60 that the resistivity of the epitaxial layer is determined according to the breakdown voltage of the device, and therefore, suggesting that it can be modified. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the necessary adjustment to the resistivity of the epitaxial layer in order to adjust the breakdown voltage of the device for a particular application.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa as applied to claim 1 above, and further in view of the Applicant's Admitted Prior Art (AAPA), previously cited.

Nakagawa substantially discloses the claimed invention, as discussed above, except for expressly disclosing that an analog circuit and a digital circuit is formed on the first and second circuit sections.

AAPA discloses in figure 1 of the instant application that on a substrate 101 a digital circuit 102 and an analog circuit 103 is formed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make an analog and a digital circuit on the same substrate in the Nakagawa reference, since it is well known in the art that in some circuit applications both an analog and a digital circuit must be present on the same substrate in order for the circuitry to be usable in that application.

6. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa as applied to claim 1 above, and further in view of Teramoto (US Patent 5,620,910), newly cited.

Nakagawa discloses the limitations in the claims, as discussed above, except for the substrate being glass.

Teramoto discloses a transistor circuitry, wherein a glass substrate is used (see column 19, lines 15-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate of the Nakagawa reference from glass, in order to practice good isolation properties between the circuit elements wherein the structure is used.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa in view of Teramoto, as applied to claim 6 above, and further in view of the Applicant's Admitted Prior Art (AAPA).

Nakagawa in view of Teramoto substantially discloses the claimed invention, as discussed above, except for expressly disclosing that an analog circuit and a digital circuit is formed on the first and second circuit sections.

AAPA discloses in figure 1 of the instant application that on a substrate 101 a digital circuit 102 and an analog circuit 103 is formed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make an analog and a digital circuit on the same substrate in the Nakagawa in view of Teramoto structure, since it is well known in the art that in some circuit applications both an analog and a digital circuit must be present on the same substrate in order for the circuitry to be usable in that application.

Response to Arguments

8. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

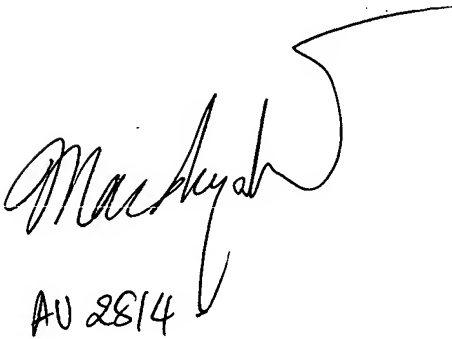
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (571)272-1706. The examiner can normally be reached on M-F 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571)272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Farahani


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